

Title (en)
SEQUENCING CHIP AND MANUFACTURING METHOD THEREFOR

Title (de)
SEQUENZIERUNGSSCHIP UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)
PUCE POUR SÉQUENÇAGE ET PROCÉDÉ DE FABRICATION CORRESPONDANT

Publication
EP 3919630 A4 20220817 (EN)

Application
EP 19913626 A 20190128

Priority
CN 2019073332 W 20190128

Abstract (en)
[origin: EP3919630A1] Provided are a chip matrix, a sequencing chip, and a manufacturing method thereof. The chip matrix includes: a wafer layer (111), the wafer layer (111) having cutting lines that are evenly distributed thereon; a first silicon oxide layer (112), the first silicon oxide layer (112) being made of silicon oxide and formed on an upper surface of the wafer layer (111); a transition metal oxide layer (113), the transition metal oxide layer (113) being made of transition metal oxide and formed on an upper surface of the first silicon oxide layer (112). The chip matrix has characteristics such as resistances against high temperature, high humidity and other harsh environments. Meanwhile, by changing pH, surfactant and other components of a solution containing sequences to be sequenced, a surface functional region of the chip matrix can specifically adsorb a sequence to be sequenced.

IPC 8 full level
C12Q 1/6876 (2018.01); **B01J 19/00** (2006.01); **C12Q 1/6869** (2018.01); **C23C 28/00** (2006.01); **H01L 21/00** (2006.01)

CPC (source: EP KR US)
B01J 19/0046 (2013.01 - EP); **B01L 3/502** (2013.01 - KR); **B01L 7/52** (2013.01 - KR); **C12Q 1/6834** (2013.01 - KR); **C12Q 1/6869** (2013.01 - KR); **C23C 28/00** (2013.01 - EP); **C23C 28/04** (2013.01 - EP); **C23C 28/042** (2013.01 - EP); **H01L 21/02183** (2013.01 - EP); **H01L 21/02186** (2013.01 - EP); **H01L 21/02274** (2013.01 - US); **H01L 21/02282** (2013.01 - EP); **H01L 21/02301** (2013.01 - EP); **H01L 21/02307** (2013.01 - EP); **H01L 21/78** (2013.01 - US); **B01J 2219/00529** (2013.01 - EP); **B01J 2219/00608** (2013.01 - EP); **B01J 2219/00612** (2013.01 - EP); **B01J 2219/00621** (2013.01 - EP); **B01J 2219/00626** (2013.01 - EP); **B01J 2219/00659** (2013.01 - EP); **B01L 2200/0663** (2013.01 - KR); **B01L 2200/12** (2013.01 - KR); **B01L 2300/0819** (2013.01 - KR); **B01L 2300/16** (2013.01 - KR); **C12Q 1/6869** (2013.01 - US); **C12Q 1/6874** (2013.01 - EP)

Citation (search report)

- [Y] WO 2015021080 A2 20150212 - TWIST BIOSCIENCE CORP [US]
- [Y] WO 03052097 A1 20030626 - HITACHI HIGH TECH CORP [JP], et al
- [Y] US 5891630 A 19990406 - EGGERS MITCHELL D [US], et al
- [Y] WO 2012122418 A1 20120913 - LIGHTSPEED GENOMICS INC [US], et al
- [A] US 2009011943 A1 20090108 - DRMANAC RADOJE T [US], et al
- See also references of WO 2020154831A1

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
EP 3919630 A1 20211208; EP 3919630 A4 20220817; EP 3919630 B1 20240410; AU 2019426202 A1 20210729; AU 2019426202 B2 20230302; CA 3125496 A1 20200806; CN 113396229 A 20210914; CN 113396229 B 20240412; JP 2022519177 A 20220322; JP 2023138996 A 20231003; JP 7386874 B2 20231127; KR 102634755 B1 20240206; KR 20210111798 A 20210913; SG 11202108115X A 20210830; US 2021384031 A1 20211209; WO 2020154831 A1 20200806

DOCDB simple family (application)
EP 19913626 A 20190128; AU 2019426202 A 20190128; CA 3125496 A 20190128; CN 2019073332 W 20190128; CN 201980090338 A 20190128; JP 2021541150 A 20190128; JP 2023108319 A 20230630; KR 20217024474 A 20190128; SG 11202108115X A 20190128; US 202117377114 A 20210715